Fiscal Rules and Fiscal Sustainability Assessment: Evidence from the Western Balkans

Charl Jooste, Sanja Madzarevic-Sujster

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Motivation

- Public debt sustainability in focus in the aftermath of the crises characterized by high levels of uncertainty and rising borrowing costs
- Debt Sustainability Analysis (DSA): the main tool in the Stability and Growth Pact reform (EU's fiscal rules)
- Stochastic DSA quantifyies macro-fiscal uncertainties surrounding the baseline scenario.

Outline

- A historical evaluation of fiscal rules

- Defining the evaluation metric

  The fiscal consequences of tight vs. loose adherence to rules

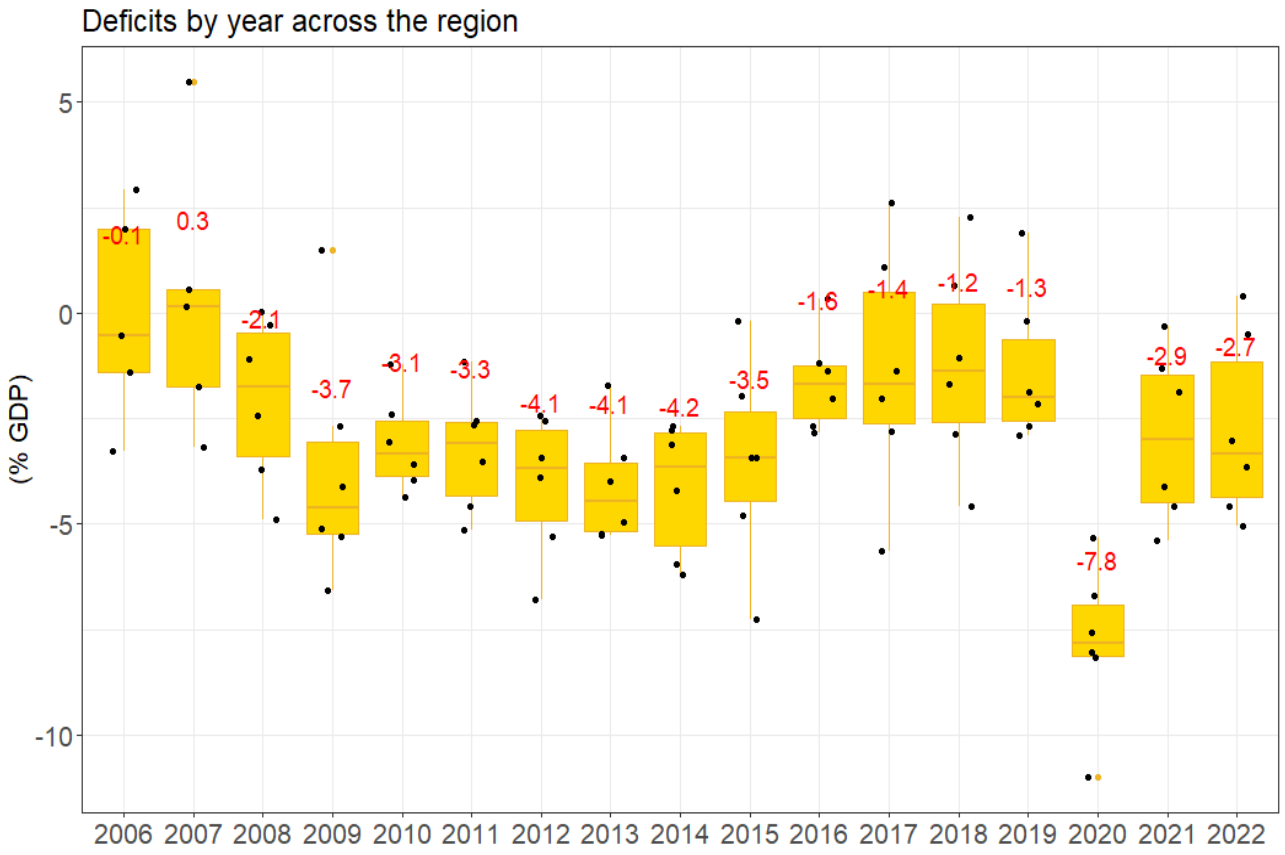
- A forward-looking evaluation

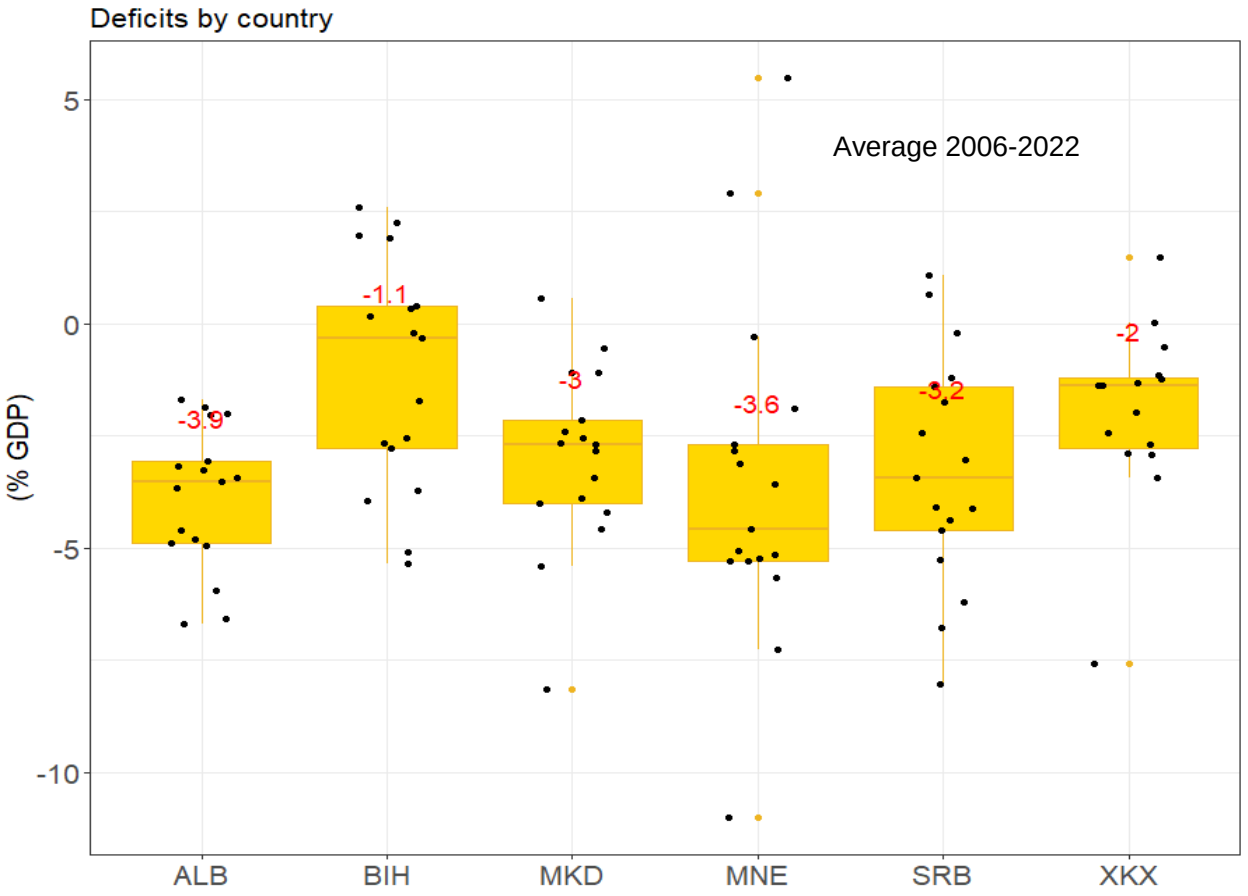
  The likely fiscal path

  The cost of getting to targets

A historical evaluation

Historically large deficits for the region, with some countries being very prudent





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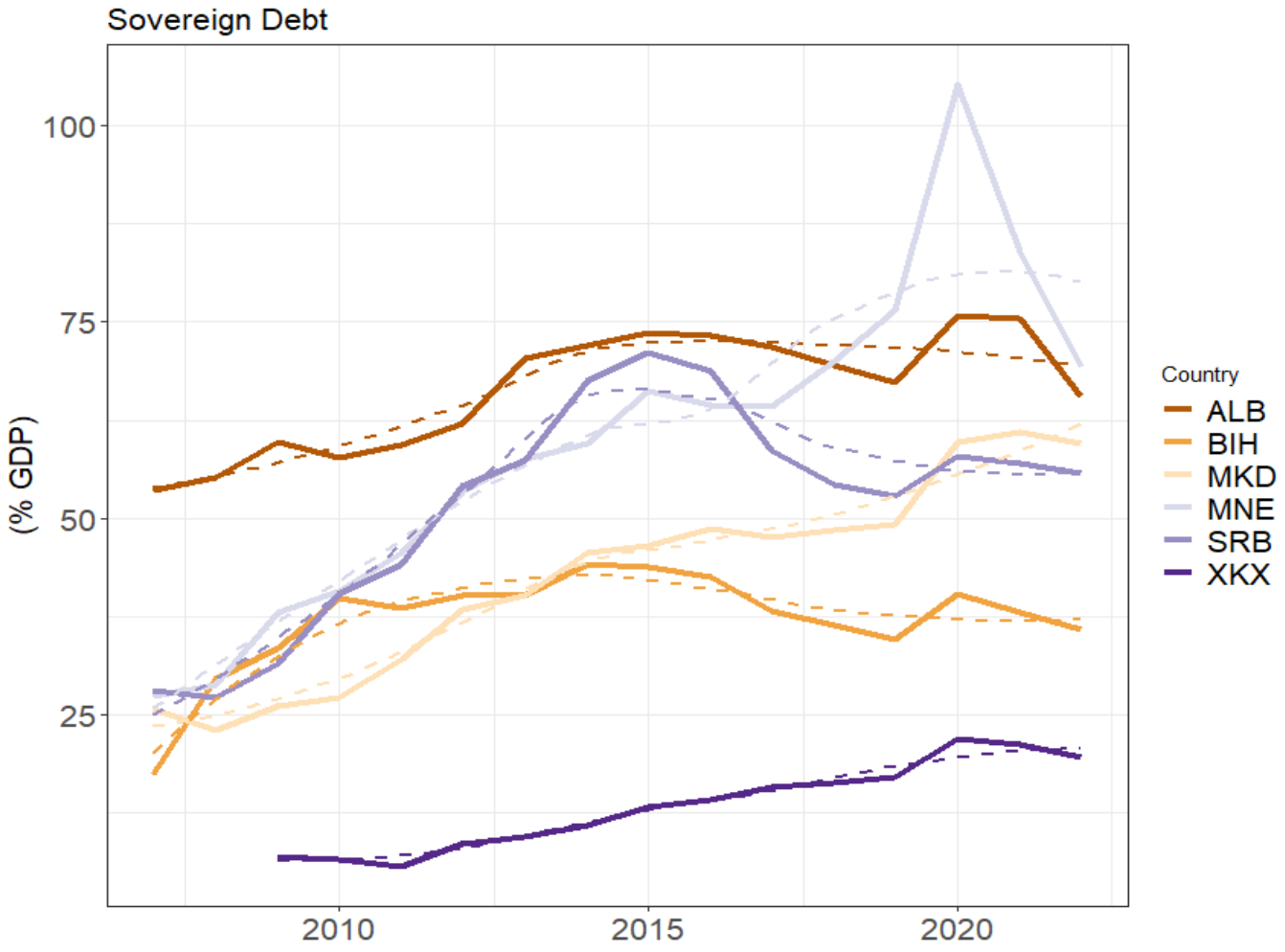
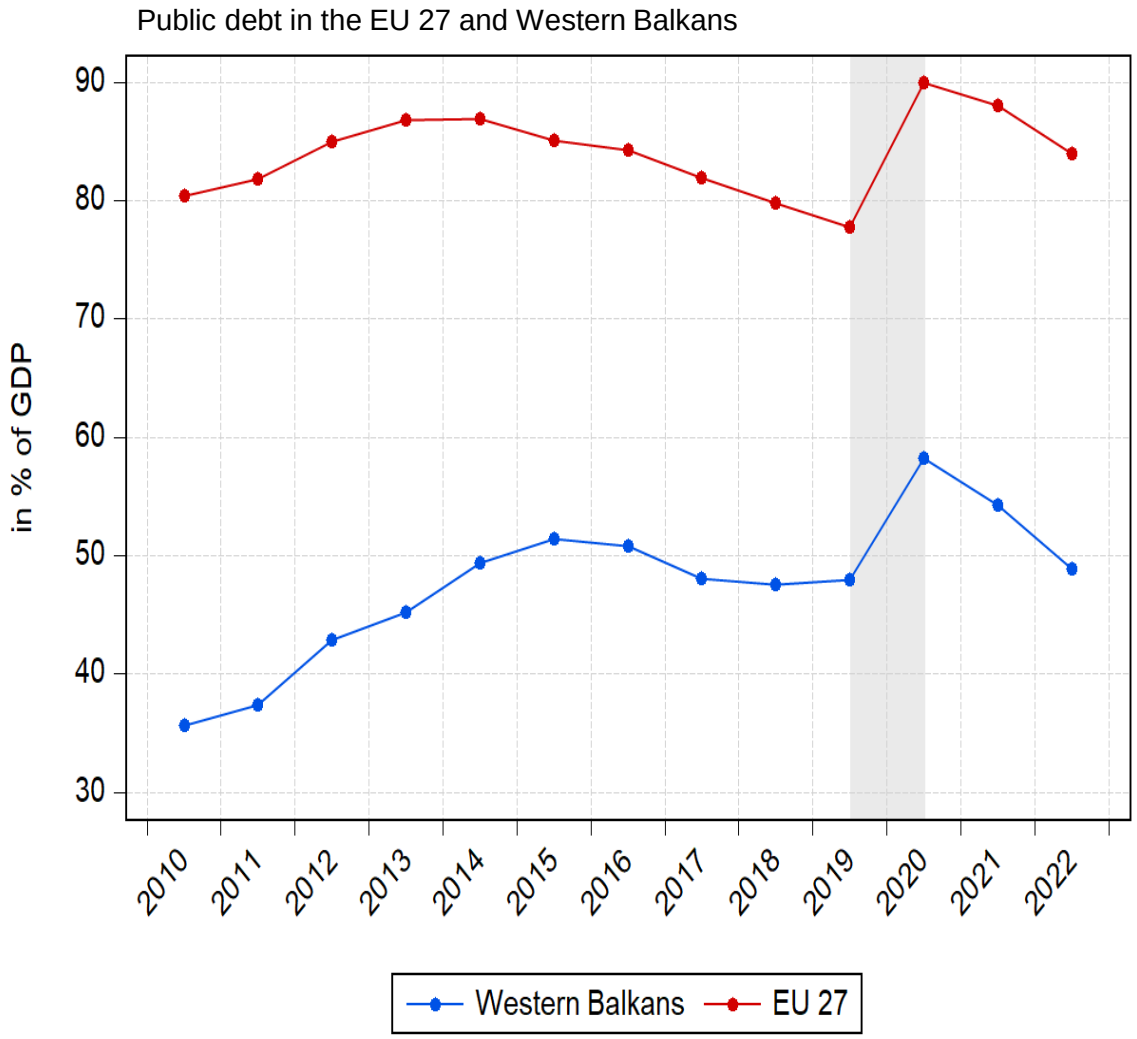
Trends in debt are mainly stable, except in Albania, Montenegro and North Macedonia, but below the EU





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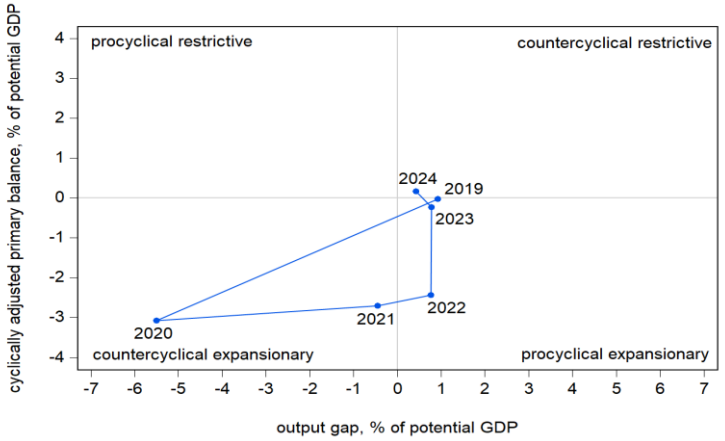
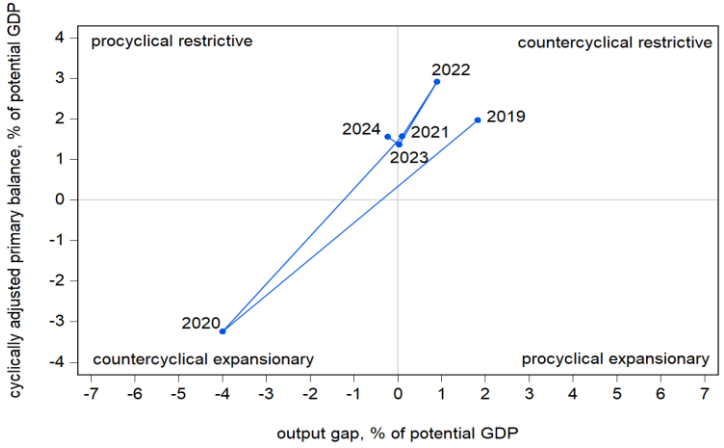
Fiscal stance in the Western Balkans

- The annual change in the cyclically adjusted primary balance, given the annual change in output gap, represents the (discretionary) fiscal impulse to the economy.

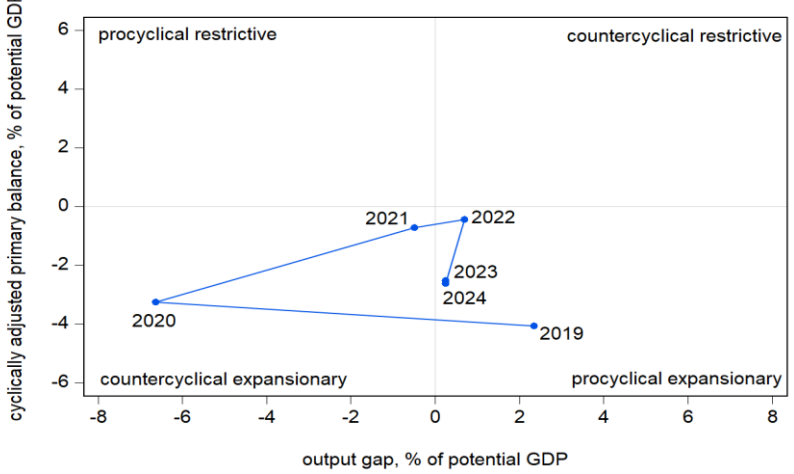
Fiscal stance in Albania



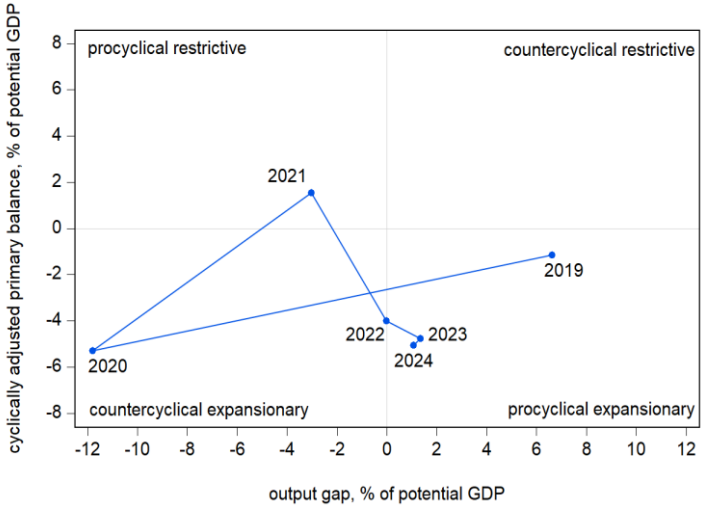
Fiscal stance in BIH



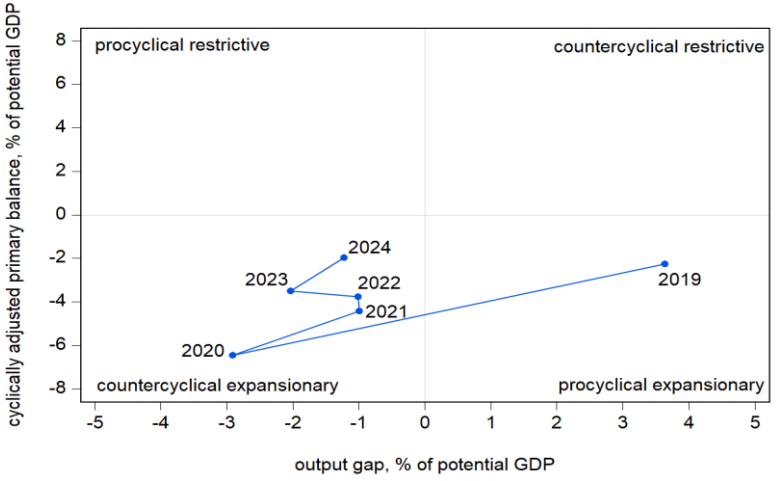
Fiscal stance in Kosovo



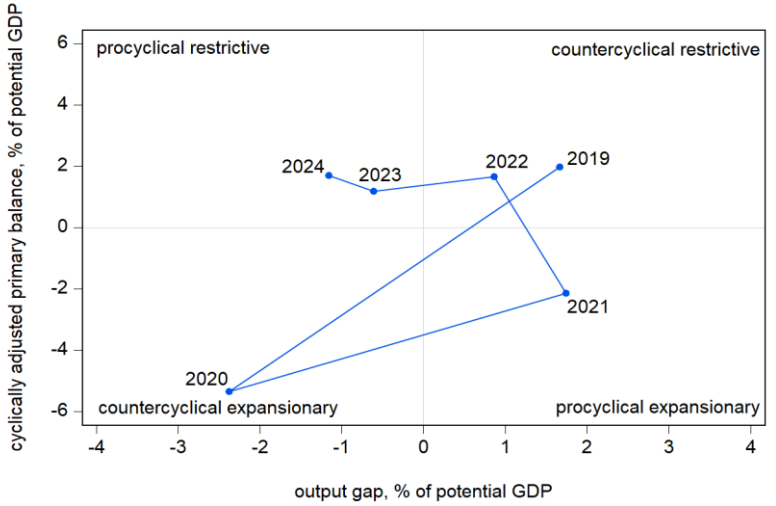
Fiscal stance in Montenegro



Fiscal stance in North Macedonia



Fiscal stance in Serbia



Defining an evaluation metric

Testing for credibility

Estimate generic expenditure function

$$\frac{G_t}{P_t Y_t} = \boldsymbol{\beta}\frac{G_{t-1}}{P_{t-1}Y_{t-1}} + (\mathbf{1}-\boldsymbol{\beta})\left[\boldsymbol{\alpha_t} + \boldsymbol{\omega}\left(\boldsymbol{\theta_1}\left[\frac{D_{t-1}}{P_{t-1}Y_{t-1}} - \left(\frac{\boldsymbol{D_t}}{\boldsymbol{P_t Y_t}}\right)^*\right]\right) + (\mathbf{1}-\boldsymbol{\omega})\left(\boldsymbol{\theta_2}\left[\frac{BB_{t-1}}{P_{t-1}Y_{t-1}} - \left(\frac{\boldsymbol{BB_t}}{\boldsymbol{P_t Y_t}}\right)^*\right]\right)\right]$$

Model incorporates the following fiscal ideas:

Persistence of expenditure choices $0 \leq \beta \leq 1$

Steady state: $\alpha_t = \frac{G^*}{P^*Y^*} = \frac{(R^* - BB^*)}{P^*Y^*}$, or when the economy is at potential

Preferences for stabilizing debt ω or for achieving budget targets $(1-\omega)$

How strongly the government wants to achieve debt target $-1 \leq \theta_1 \leq 0$

How strongly the government wants to achieve fiscal target $0 \leq \theta_2 \leq 1$

Testing for credibility

Function approximates (i) a debt rule when $\omega = 1$; (ii) a deficit rule when $\boldsymbol{\omega = 0}$; (iii) an expenditure rule when $\boldsymbol{\theta_1, \theta_2 = 0}$

Every period the government will close % of the gap between initial debt and target debt by $(1-\beta)(\omega)\,|\theta_1|$ or roughly $n = \frac{\log\left(\frac{0.01}{D_{initial} - D^*}\right)}{\log(1-[(1-\beta)\{\omega|\theta_1|+(1-\omega)|\theta_2|\}])}$ years

Sometimes governments may have conflicting targets – i.e., think short term by stimulating the economy but in long term reduce expenditures

The impact on total spending will depend on the size of the deviations and the relative weights $(1-\beta)(\omega)\,|\theta_1|$ and $(1-\beta)(1-\omega)\theta_2$

Rules for each country

	ALB	BIH RS	FBIH	XKX	MKD	MNE	SRB
Debt/GDP limit	**60% (or 45% from 2024)**	**55% and guaranteed debt 15%**	**Debt service at 18% of revenues**	**Debt with guarantees at 40%**	**60%, and guaranteed debt 15%**	**60%**	**Debt with guarantees at 60%**
Deficit/GDP limit	**2% if IMF real GDP forecast is >5%. Primary budget balance 0% from 2024**	**<3%**	**<3%**	**<2%**	**<3%**	**<3%**	**0% if debt >60% 0.5% if debt 55-60% 1.5% if debt 45-55% 3.0% if debt <45%**
Auxiliary constraints	Deficit<capital expenditure. At least 0.7% of expenditure needed to compensate for potential risks from fluctuation of FX rates and interest rates.	Short-term debt<8% of revenues in t-1 If deficit of 2.5% GDP or 50% of debt to GDP are reached in year t, the budget in t+1 shall be in surplus	Short-term debt<5% of revenues in t-1	Compensation of employees can grow by nominal GDP growth in t-1. If debt <30%, spending on investment financed by IFIs or privatization receipts is excluded from the deficit calculation		Current surplus Current expenditure growth < real GDP growth. Capital expenditure growth < nominal GDP growth. Municipality's deficit cannot exceed 10% of its revenues in that year.	Compensation of employees <10% of GDP. Target for pensions pension expenses is 10% of GDP with some predefined exceptions. Local governments' fiscal deficit <10% of revenues
Escape clauses	Natural disasters, recession, major infrastructure projects	Natural disasters, recession, major infrastructure projects	Natural disasters	Natural disasters, recession, major infrastructure projects	Natural disasters, threatening security or health of citizens, state of emergency, economic recessions, investments with a positive impact on GDP (0.5% of GDP p.a. cumulatively for 5 years)	Natural disasters, recession, major infrastructure projects	Natural disasters, external shocks that affect people's health, national security, a significant decline in economic activity

Initial estimates

We estimate the following to obtain initial estimates (controlling for the output gap)

$$\frac{G_t}{P_t Y_t} = \alpha + \hat{\theta}_1 \left[\frac{D_{t-1}}{P_{t-1} Y_{t-1}} - \left(\frac{D_t}{P_t Y_t} \right)^* \right] + \hat{\theta}_2 \left[\frac{BB_{t-1}}{P_{t-1} Y_{t-1}} - \left(\frac{BB_t}{P_t Y_t} \right)^* \right]$$

	α	$\hat{\theta}_1$	$\hat{\theta}_2$	Adj. R^2	Focus
ALB	0.26***	0.19***	-0.31**	0.57	Sunspot
BIH	0.43***	-0.16**	-1.60***	0.70	SR and slow LR fiscal stability
MKD	0.32***	-0.07*	-1.22***	0.55	Sunspot
MNE	0.43***	-0.02	-0.58***	0.62	Slow LR fiscal stability
SRB	0.42***	0.06	-0.64***	0.65	Slow LR fiscal stability
XKX	0.27***	-0.13**	0.05	0.59	LR fiscal stability

Note that initial conditions matter: If below target then already on sustainable paths

Sunspot: Multiple equilibria possible. Unknown shock can lead to unsustainable debt

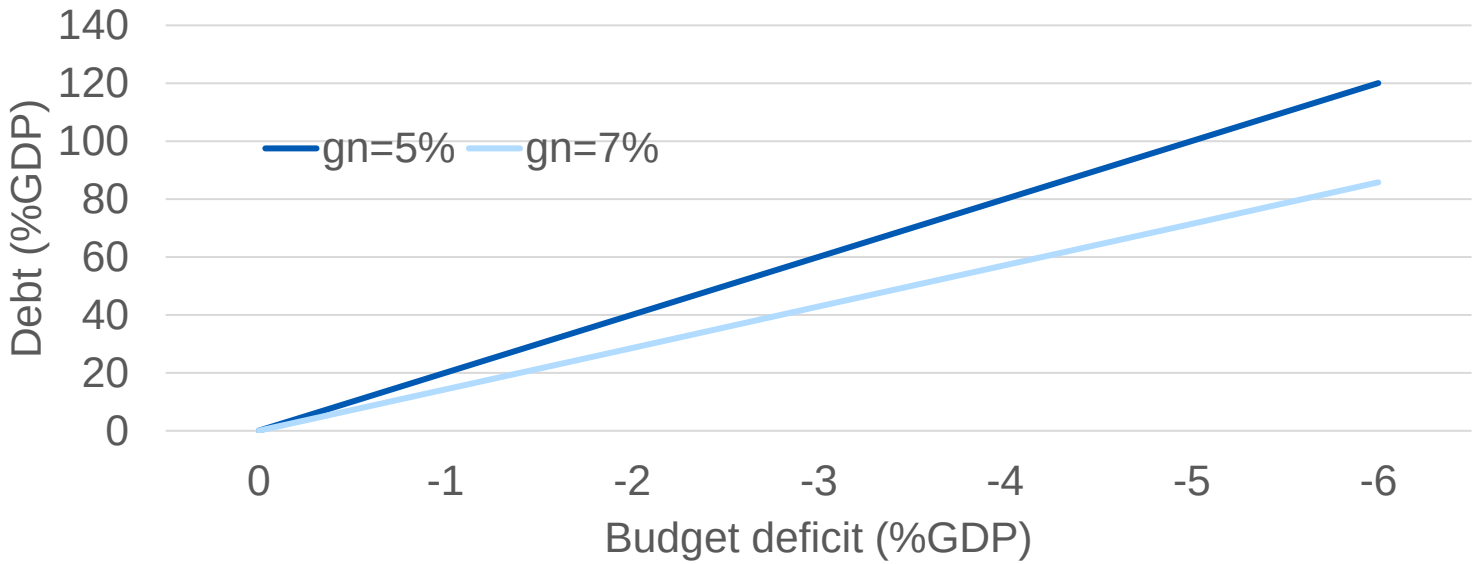
Parameters are interrelated

We know that long term debt and the structural budget is related through:

$$d_T = -b^* \sum_{i=0}^{T} (1+g_n)^i \approx \frac{-(t^* - g^*)}{g_n} = \frac{-(t^* - \alpha)}{g_n}$$

Size of government is critical (α). α, $\left(\frac{D_t}{P_t Y_t}\right)^*$, and $\left(\frac{BB_t}{P_t Y_t}\right)^*$ are thus related. If government does not calibrate this carefully then we have competing objectives

d_T: Debt to GDP
b^*: Steady state budget to GDP
g_n: Nominal GDP growth
t^*: Long run revenue to GDP



$g^* = \alpha$: Steady state government expenditure to GDP

Is the size of government too big to achieve targets?

	LR $\frac{T}{Y}$	Target debt	Nominal GDP growth (g_n) [Ave 2008-2022]	$\hat{\alpha}$	α for reaching target	Implied deficit	Too big/small
ALB	26%	40%	4.8%	0.26***	0.26	-2.9%	Uncertain
BIH	42%	60%	3.5%	0.43***	0.43	-2.1%	On target
MKD	31%	60%	5.3%	0.32***	0.34	-3.2%	On target
MNE	43%	60%	5.3%	0.43***	0.44	-3.2%	On target
SRB	40%	60%	6.6%	0.39***	0.42	-4.0%	On target
XKX	27%	40%	6.5%	0.27***	0.29	-3.9%	On target

A forward-looking evaluation

Stylized model for understanding transitions

Small Structural Model

$$A_0 y_t = c + A_1 y_{t-1} + \epsilon_t \text{where } E(\epsilon_t \epsilon_t') = \Sigma$$

$$y_t = \{ISCurve, Phillips\ Curve, Bond\ Yields, Tax\ buoyancy, Expenditure\ function\}$$

Model is sensitive to

- Initial conditions: Is debt high or low?
- Interest elasticity to debt: Debt can become very sensitive to small changes in interest rates
- The pace of consolidation: Too slow a consolidation may result in explosive debt
- The expected long-term deficit: Expenditures should not really exceed revenues by too much

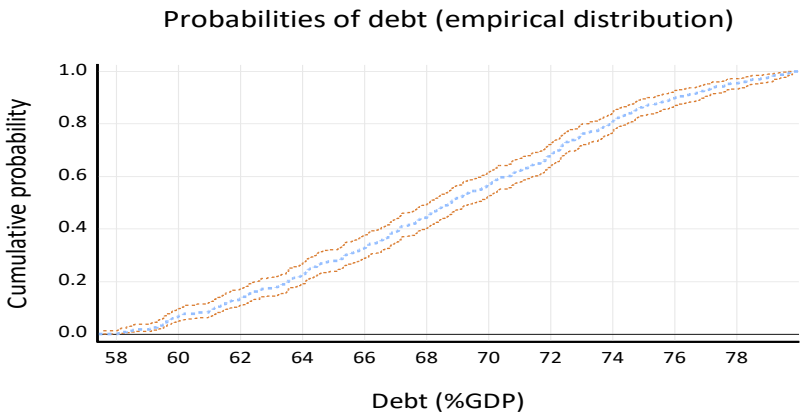
Forward looking estimates

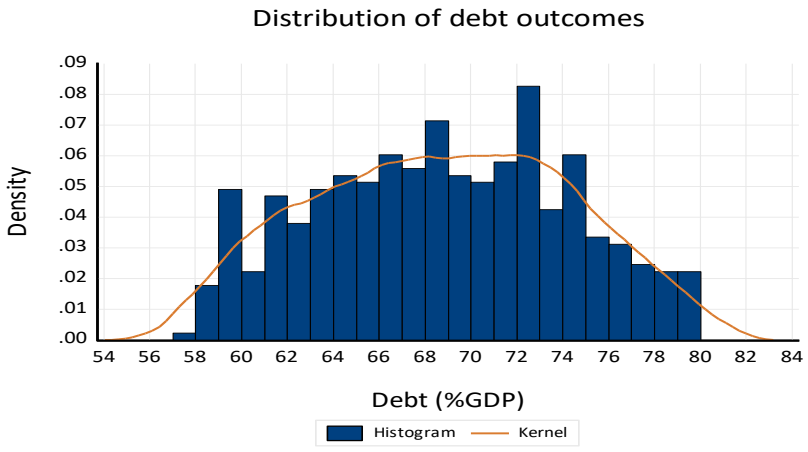
- Run Monte Carlo simulations of joint economic behavior conditional on historical reactions to targets

- How strict or loose can each country be and still achieve targets with a reasonable likelihood?

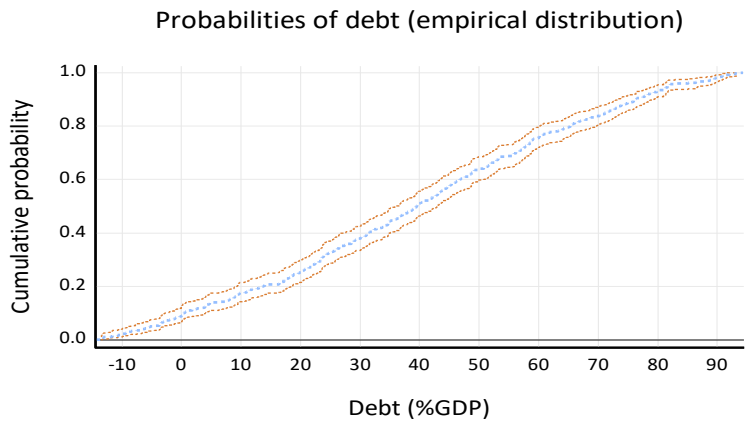
Forward looking estimates by 2030

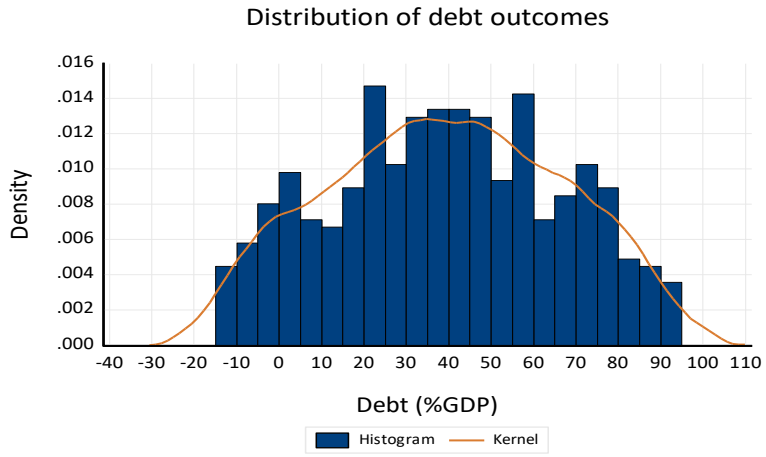
Albania



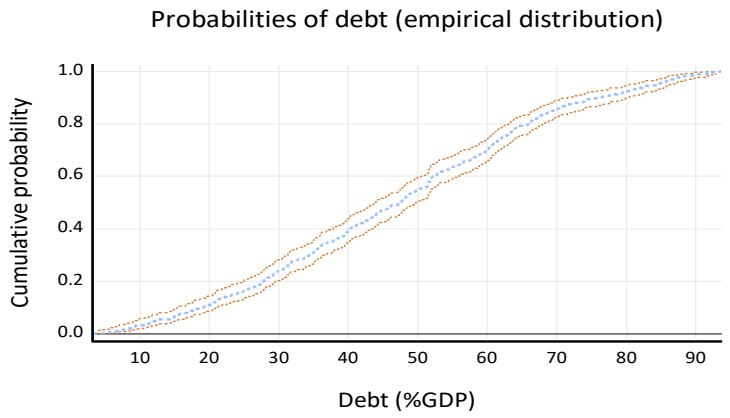


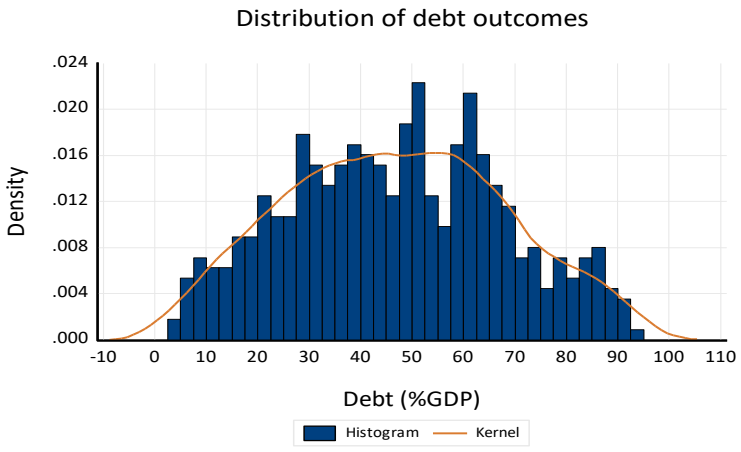
Bosnia & Herzegovina





North Macedonia





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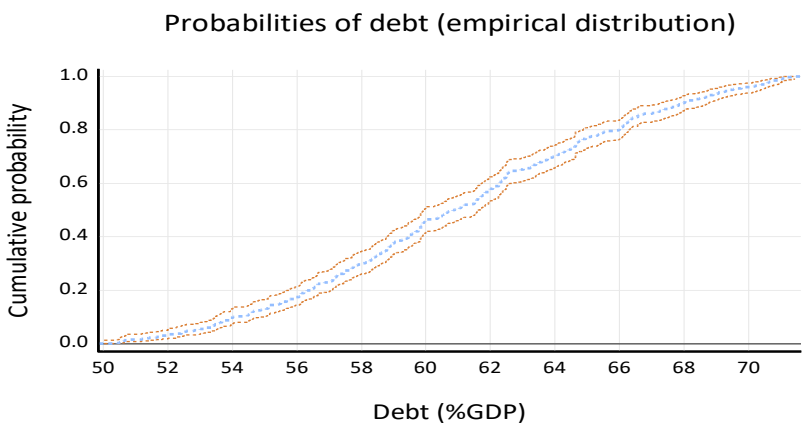
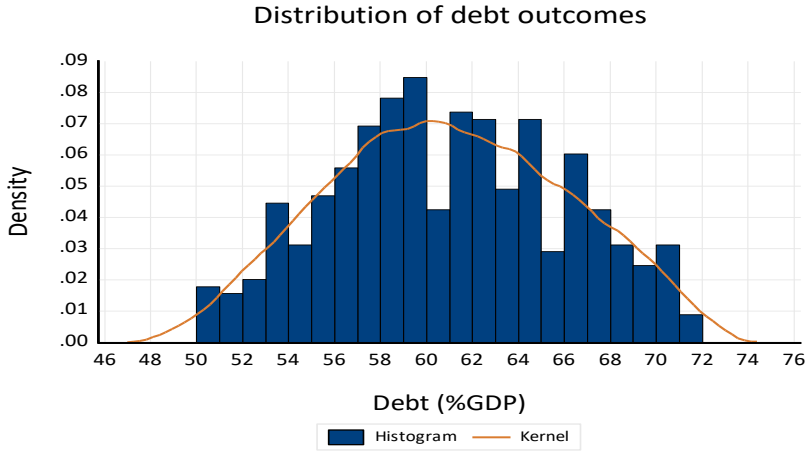
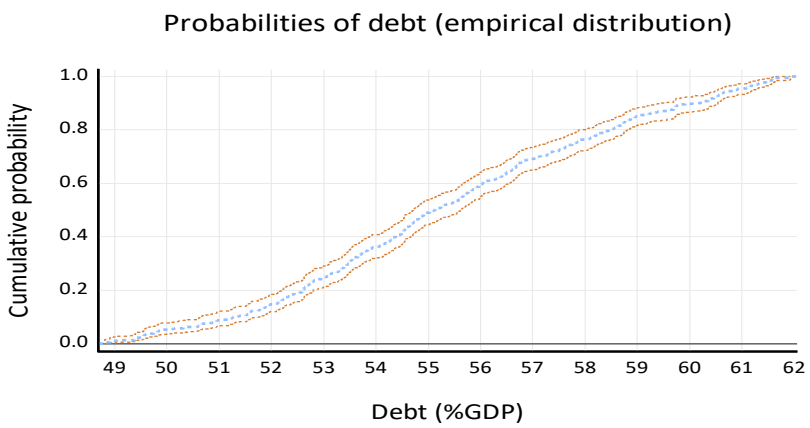
Forward looking estimates by 2030

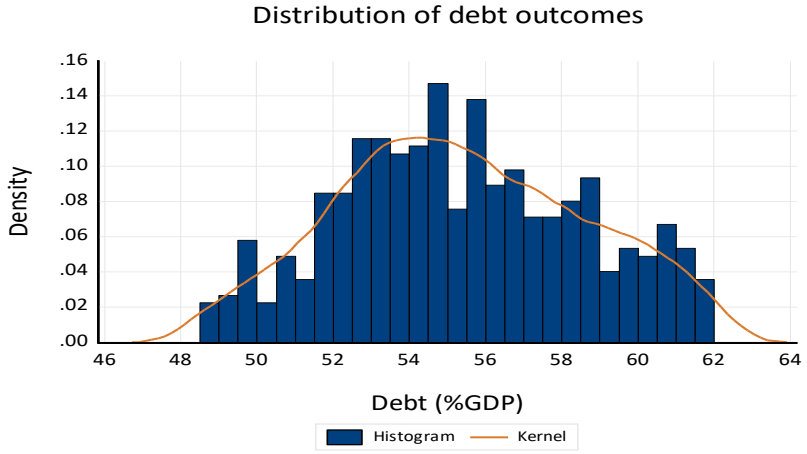
Montenegro



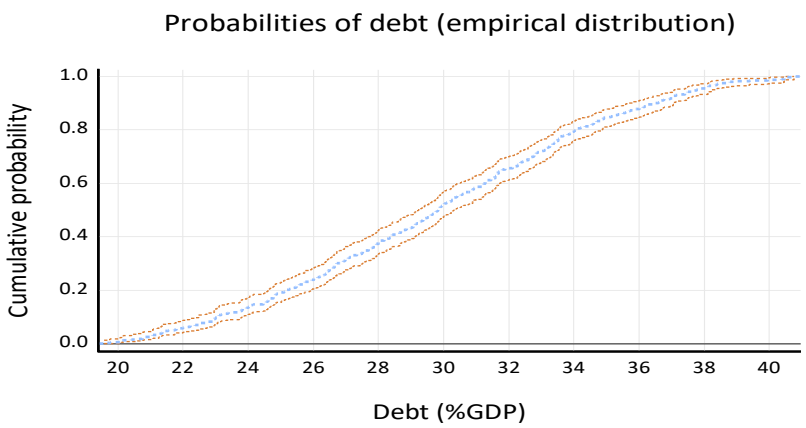


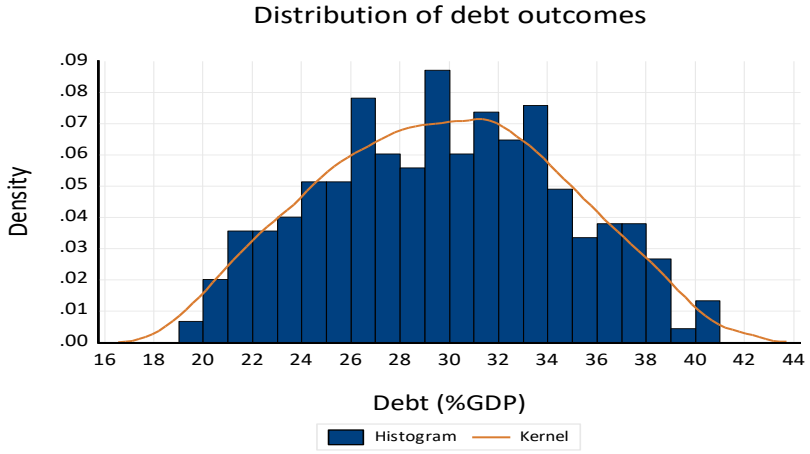
Serbia





Kosovo





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Summary of forward-looking estimates

- In most country cases, the current fiscal effort should result in an achievement of hitting fiscal targets
- There are significant shocks that could lead to a deviation from target (notably ALB, MKD and MNE)
- For some countries, the likelihood of breaching targets (conditional on following through with their current commitment behavior) minimizes the changes of missing targets (BIH and XKX)

Fiscal effort to improve the probability of achieving debt targets

	Median debt estimate (current effort)	Median budget estimate (current effort)	**CDF(D<60%)**	Median debt estimate (with more effort)	Median budget estimate (with more effort)	**CDF(D<60%)**	Average growth loss (%)	Policy (increased commitment)
ALB	66%	-4.8%	**0.06**	61%	-3.16	**0.69**	-0.13%	Smaller government
BIH	34%	-2.1	**0.73**	32%	-1.5%	**0.76**	-0.05%	Debt focus
MKD	55%	-0.7%	**0.71**	55%	-0.9%	**0.83**	0.00%	Budget and debt focus
MNE	67%	-2.4%	**0.39**	62%	-0.9%	**0.65**	-0.02%	Debt focus
SRB	54%		**0.96**	54%		**0.96**	-0.00%	
XKX*	30%			30%				

* Target of 40% debt to GDP

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Concluding thoughts

Hight initial debt levels can be costly:

- Higher likelihood of unsustainable debt and hence costlier borrowing
- Reduced space of demand stimulus

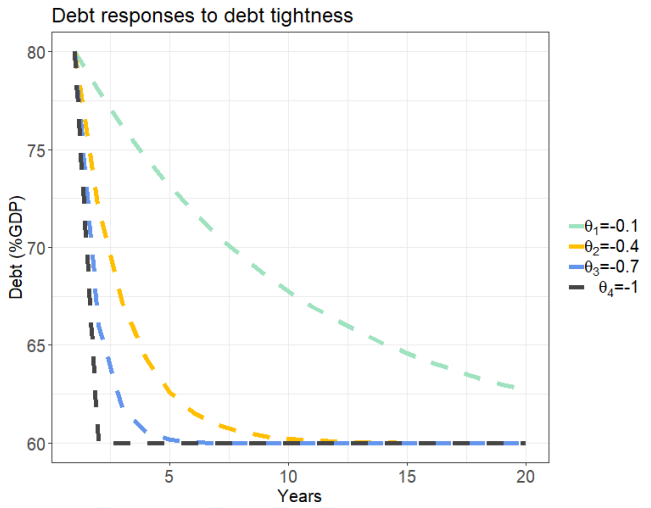
Weak enforcement of rules:

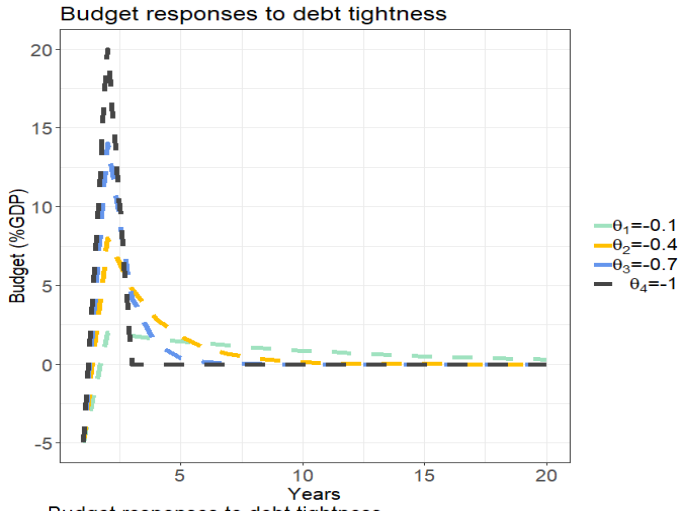
- Growth–debt trade-off becomes more binding
- After a large negative shock, a strong commitment to fiscal sustainability rather than a weak commitment is critical

Appendix: Country Specific Analysis

Illustrating times to close gaps with focus on debt

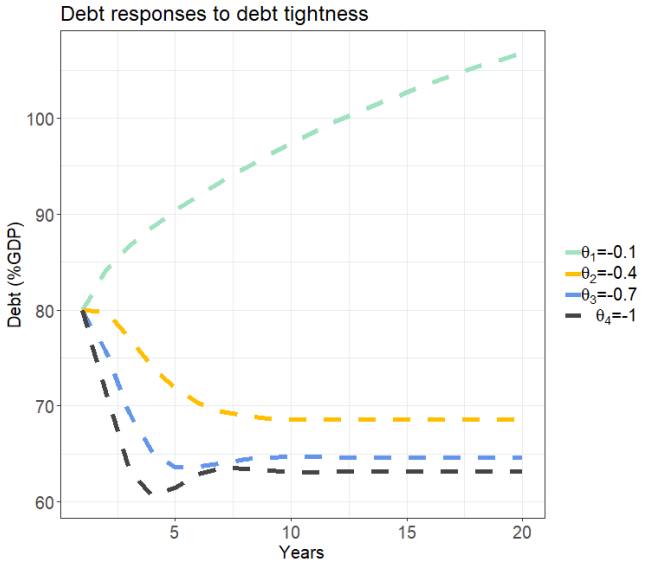
When $\beta = 0$

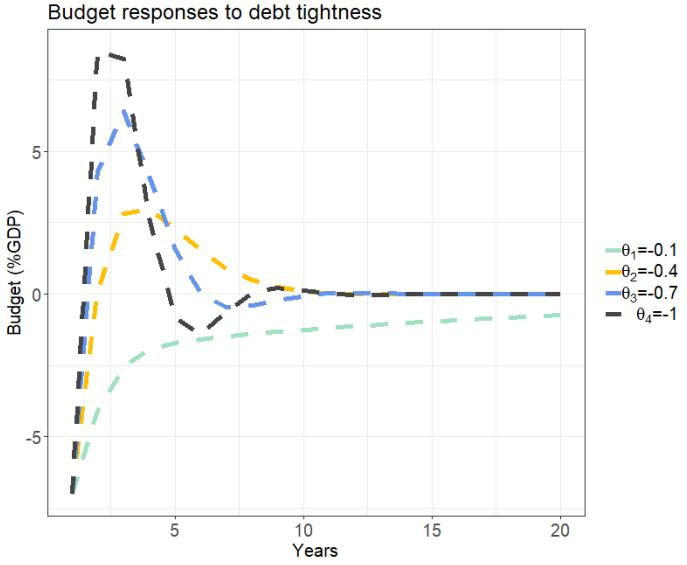




Reducing debt to 60% if there is no stickiness may mean drastic budgetary responses or delays in meeting objectives

When $\beta = 0.3$





Reducing debt to 60% if there is no stickiness may mean drastic budgetary responses or delays in meeting objectives

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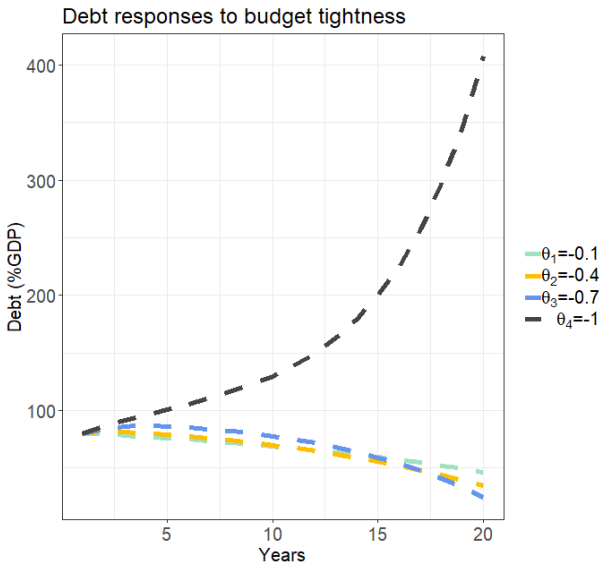
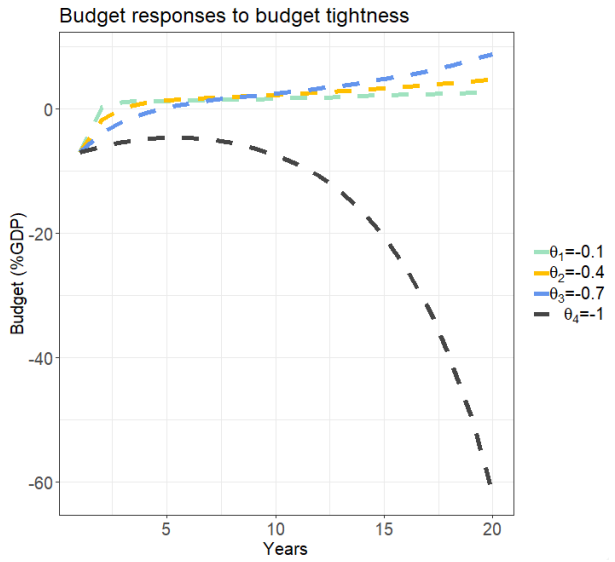
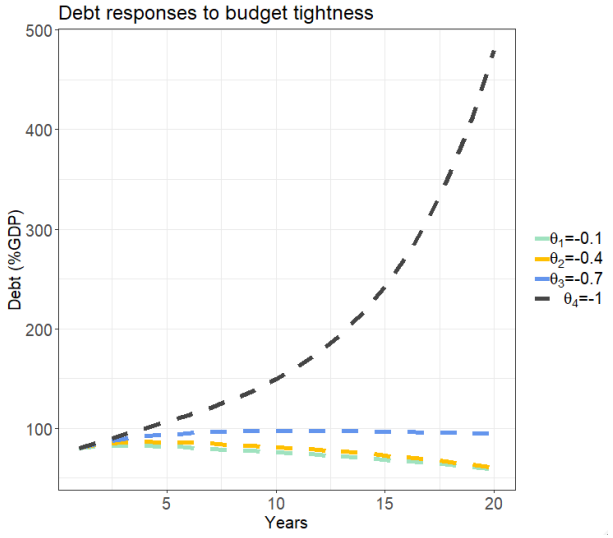
Illustrating times to close gaps with focus on deficit adjustments

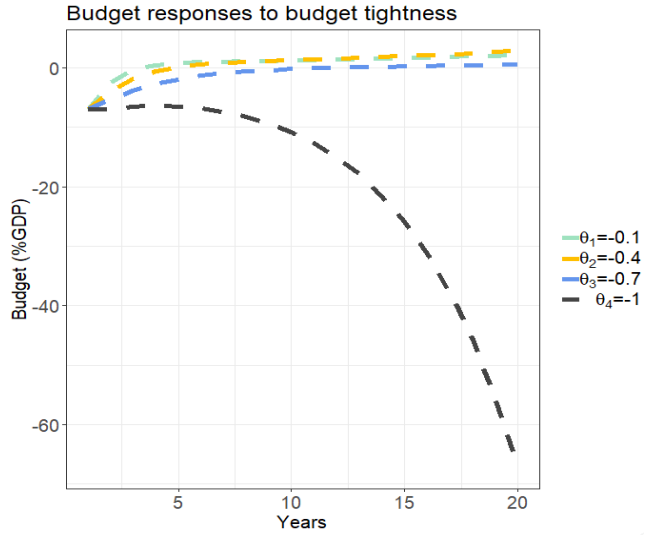
When $\beta = 0$ & $\alpha < \frac{T}{Y}$





When $\beta = 0.3$ & $\alpha < \frac{T}{Y}$





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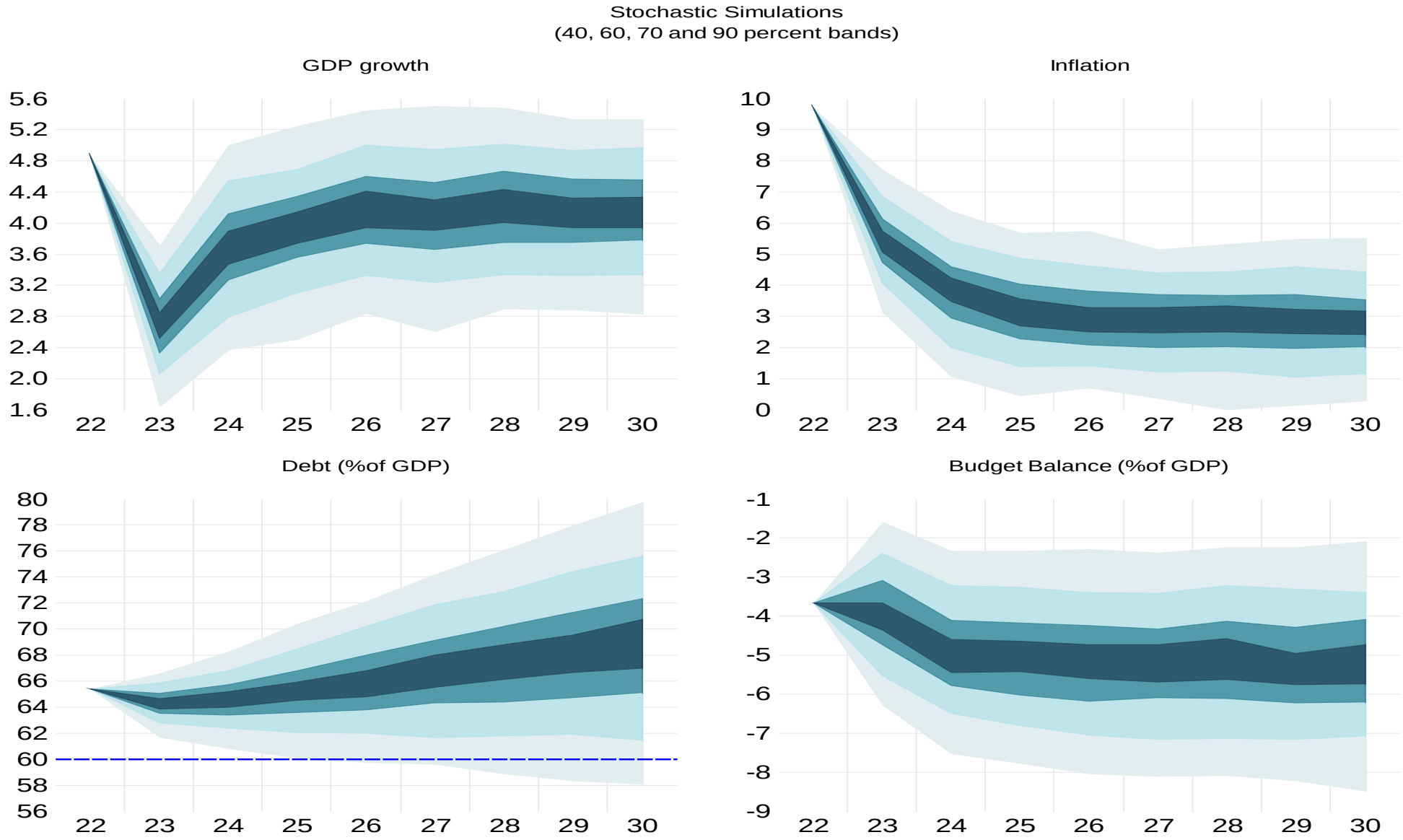
Albania: Projected estimates up until 2030



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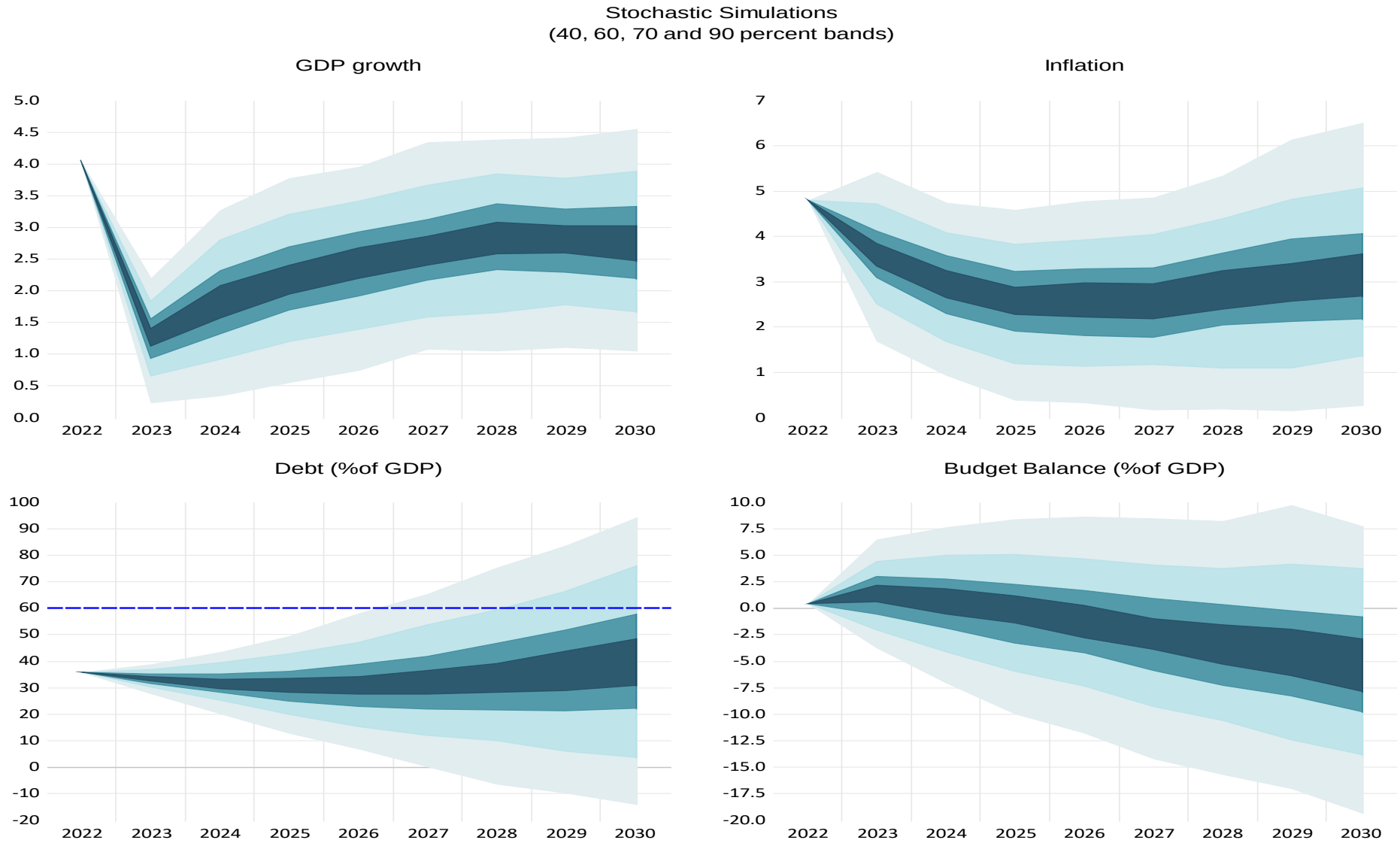
Bosnia and Herzegovina : Projected estimates up until 2030



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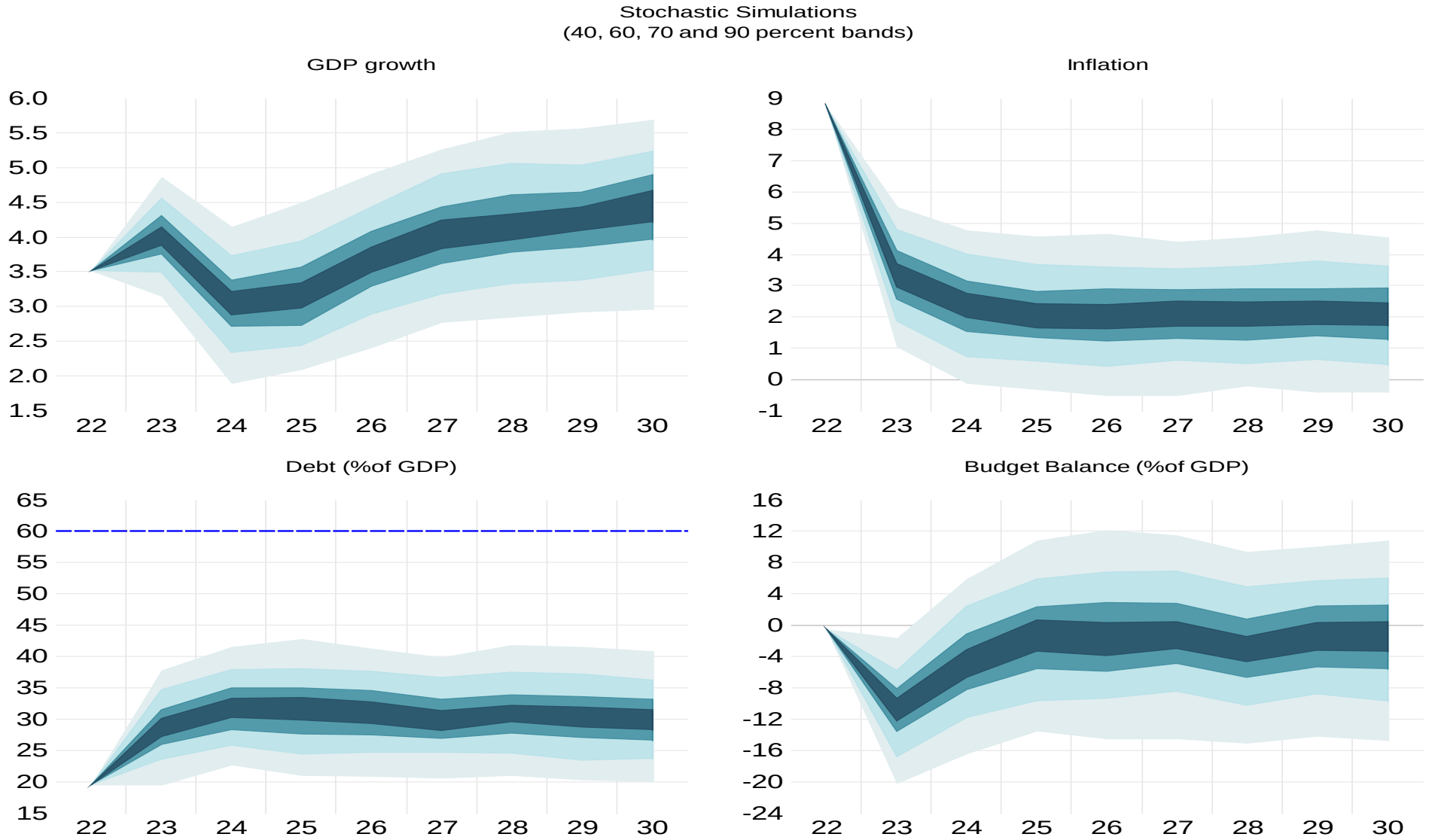
Kosovo: Projected estimates up until 2030



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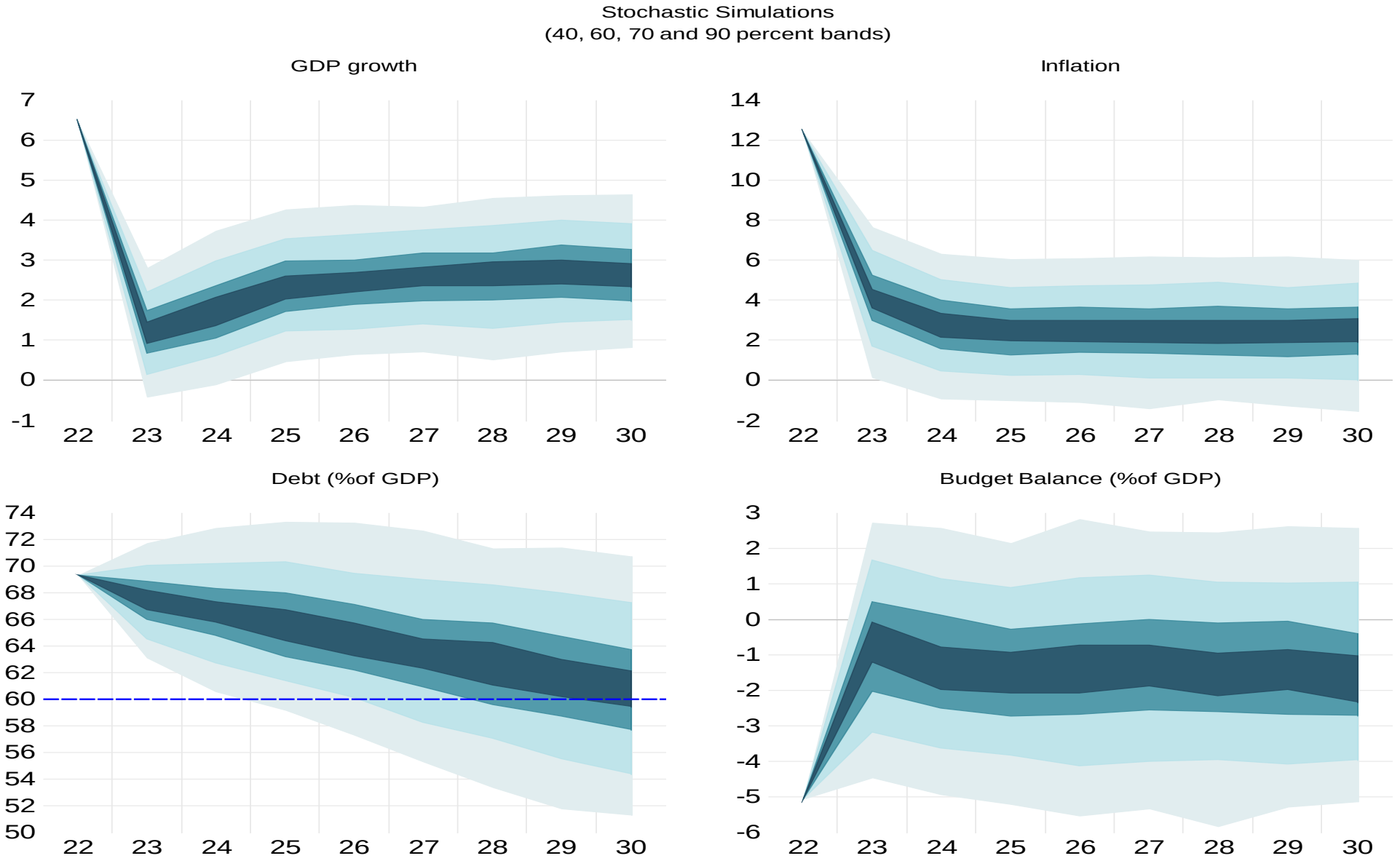
Montenegro: Projected estimates up until 2030



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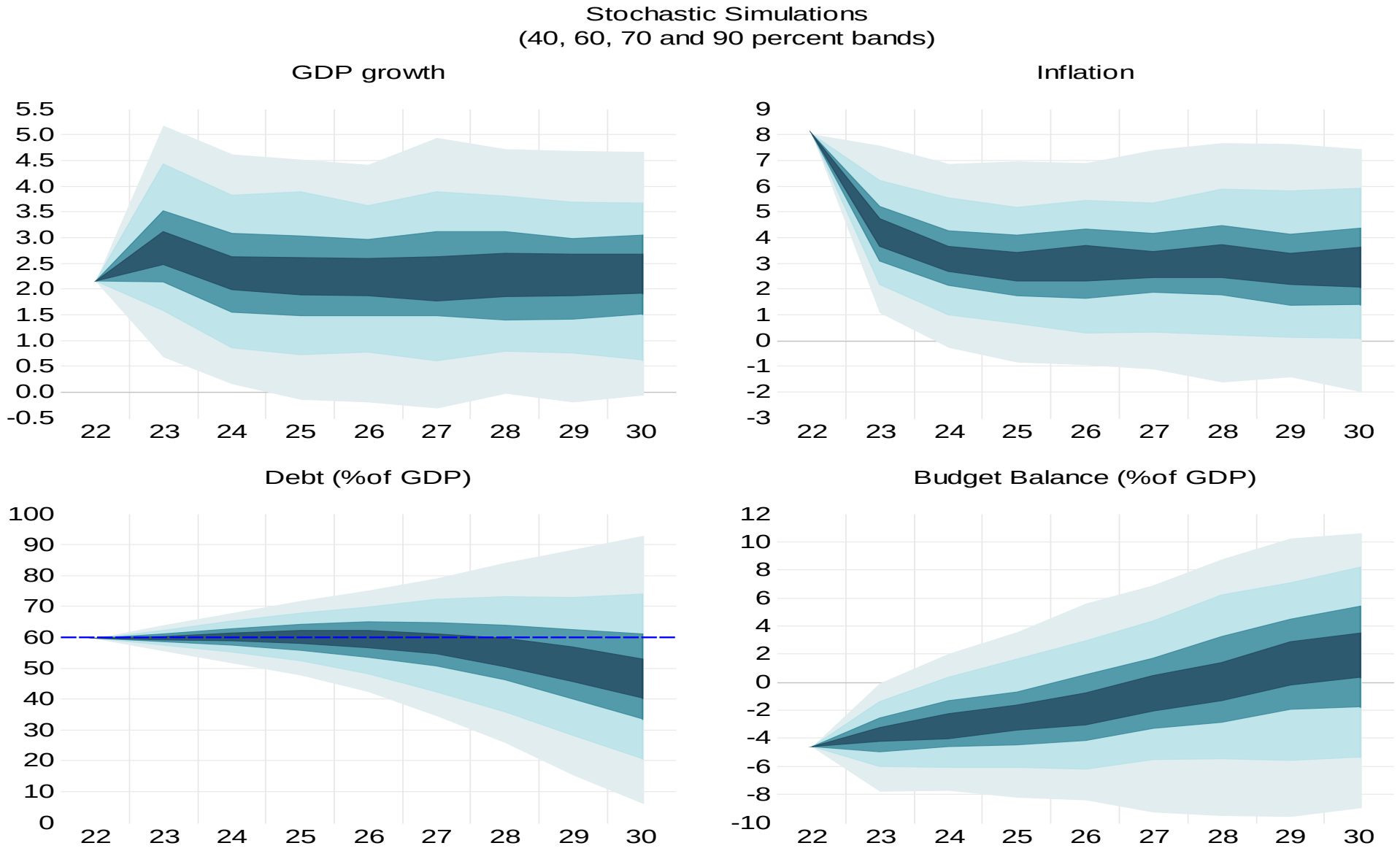
North Macedonia: Projected estimates up until 2030



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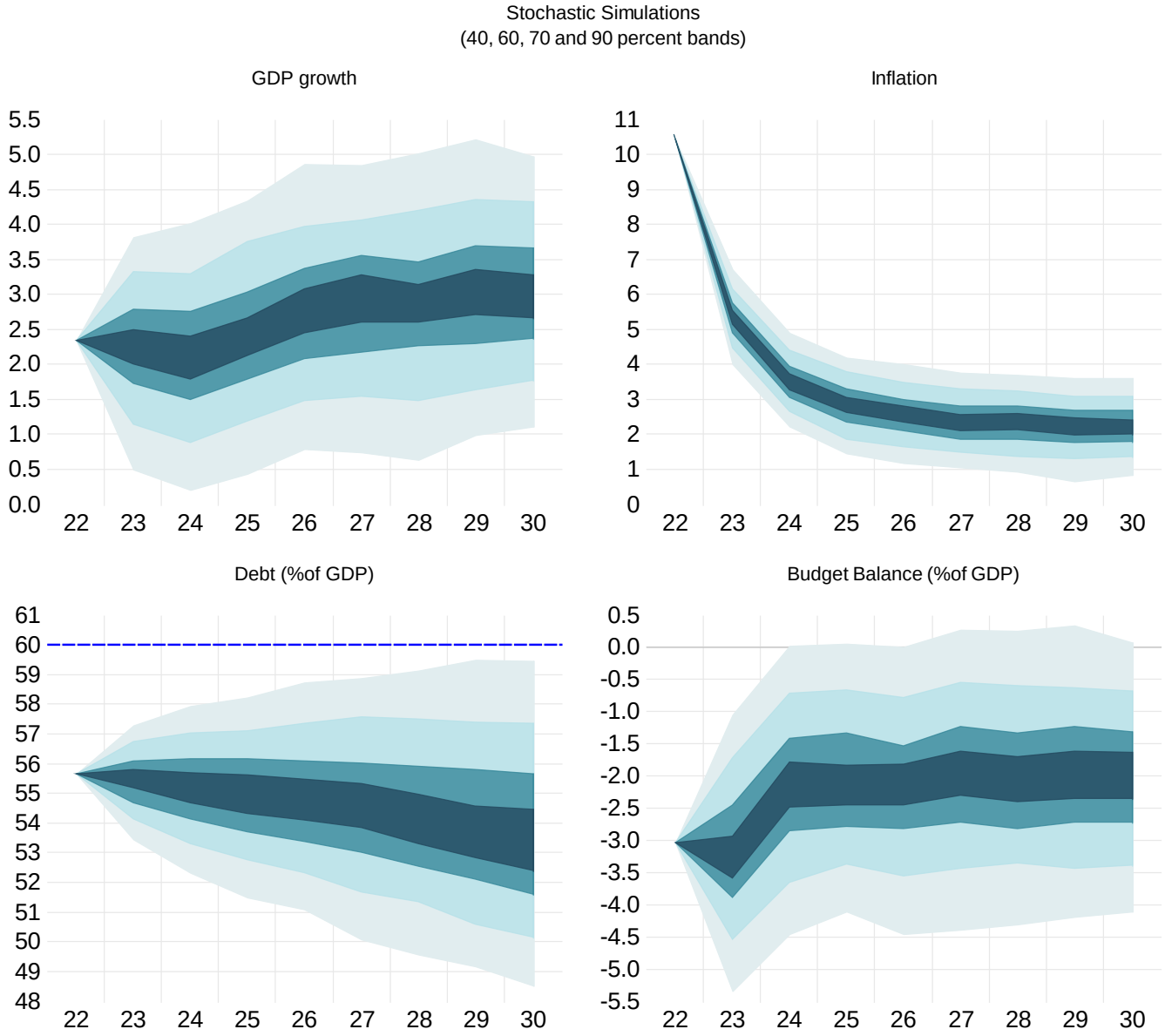
Serbia: Projected estimates up until 2030



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Thank you

Strengthening Fiscal Governance in the Western Balkans (worldbank.org)

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